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DISPERSAL OF RING-BILLED GULL NESTING COLONIES IN NEW YORK STATE

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Ring-billed gulls (*Larus delawarensis*) are adapting to rooftop nesting habitats throughout the Northeast and the Great Lake States. Presently, six such colonies exist in New York State. Noise, plus accumulations of droppings, feathers and nesting material, cause unsanitary conditions, structural damage, health problems, traffic problems and have lead to Occupational Safety and Health Administration citations. We began a 3-year project in 1991 at two locations, Niagara Falls and Syracuse, New York, to relocate nesting gulls to other nesting sites. Eight lethal and nonlethal control alternatives were considered and three nonlethal alternatives were selected. We concluded that: (1) the nonlethal techniques used were successful in relocating the two gull nesting colonies, (2) the techniques must be used for 3 years to be successful because of the age of sexual maturity in this species, and (3) there are several interesting areas for future research on this problem.

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Ring-billed gull populations are steadily increasing throughout the state of New York and Great Lakes Region (Blokpoel and Tessier 1986). Gull colonies are finding large gravel rooftops of buildings to be ideal nesting habitats, due to the lack of predators and their resemblance to island/beach habitats (Belant 1993, Blokpoel et. al. 1989). Gull populations are unacceptable nesting on rooftops because of the accumulation of feces, food remains, nesting material and dead chicks. These factors result in unsanitary conditions, allergy problems, traffic accidents, structural damage and labor problems. Failure by labor management to properly maintain a safe workplace has resulted in Occupational Safety and Health Administration citations in similar situations elsewhere.

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METHODS

The U.S. Department of Agriculture, Animal Damage Control (ADC) program uses an Integrated Wildlife Damage Management (IWDM) approach (sometimes referred to as IPM or “Integrated Pest Management”) in which a series of methods may be used or recommended to reduce wildlife damage. IWDM is described in Chapter 1, 1-7 of the ADC Program Supplement to the Draft Environmental Impact Statement (USDA 1992).

Two sites were selected in 1991 for evaluation of methods for dispersing nesting colonies. These sites had large concentrations of gulls which were causing various health, safety and structural problems. The Niagara Falls site was located on a manmade limestone peninsula located on a manmade body of water. This 2-acre tract with steep clifflike sides was separated from the mainland by a chainlink fence. The Syracuse site was a 20 ft tall, 4- acre gravel rooftop located 32 miles southeast of Lake Ontario.

Alternatives were developed for consideration using the ADC Decision Model as described in Chapter 2, 2-20 and Appendix Q of the ADC Program Supplement to the Draft EIS (USDA 1992). Table 1 lists the eight alternatives considered for dispersing the rooftop nesting gulls. The selected alternative was a combination of hazing techniques, grid wires, and egg and nest removal. Grid wires, spaced 20 ft X 20 ft, were made of 80-lb test monofilament fish line. The grid system was supported by posts of 8 ft tall 2 in X 4 in lumber nailed to the sides of pallets. A cinder block was placed upon each pallet to increase stability. All eggs and nests were collected and removed at 7- to 10-day intervals. Thus, embryos within the eggs were never allowed to develop past day 10.

In 1991, we predicted that it would take 3 years to successfully move a ring-billed gull colony because young gulls, when they reached sexual maturity at age 3, would return to the colony where they were hatched. Thus, for example, gulls hatching the Summer of 1990 would return to the colony to nest in 1993.

Table 1. Alternatives developed for consideration using the U.S. Department of Agriculture, Animal Damage Control decision model.

Item	Alternatives considered
1.	No action
2.	Shooting with shotgun
3.	Chemical (Starlicide, Avitrol)
4.	Capturing and Euthanizing
5.	Hazing techniques
6.	Grid wire system
7.	Egg treatment (adeling, freezing, oiling, puncture)
8.	Egg and nest removal

## RESULTS

The Chronology of Events of both colonies in 1991 - 1993 was generally as follows:

March 1-7	Gulls arrived on site and became territorial.
April 5-6	First gull nests appeared.
April 15	Grid wires erected.
April 16	Some (few) of the first eggs laid.
May 1	All female gulls began laying eggs.
May 1-10	Peak of egg laying activity.
June 18	No new nests or eggs were found after this date.

At the Niagara Falls Site (Table 2), the beginning population in March 1991 was estimated at 2,000 gulls (1,000 pairs). The erection of a grid wire system immediately reduced the population to an estimated 600 birds. The greatest number of nests found at this site was 321 in 1991. In 1992, gulls only attempted nesting during a 2-week period and the average number of nests per visit dropped to 225. By 1993, only 11 pairs attempted nesting. These few birds, however, persisted in renesting well into June. We believe these gulls relocated to other colonies, located either on the cliffs below Niagara Falls (5 miles away) or near Buffalo, New York (21 miles away).

Table 2. Number of ring-billed gull nests removed on each visit to the gull colony at Niagara Falls, New York.

Visit numbers <sup>a</sup>	Year			
	1991	1992	1993	Total
1	6	0	0	6
2	157	231	11	399
3	321	220	7	548
4	82	0	3	85
5	21	0	7	28
6	9	0	5	14
7	2	0	1	3
Total	598	451	34	1,083

<sup>a</sup>Visit number 1 was during the last week in April each year. Subsequent visits were at 7- to 1- day intervals. Visits 2 - 5 were during May and Visits 6 and 7 occurred during the first two weeks in June each year.

At the Syracuse Site (Table 3), the beginning population in March 1991 was estimated at 3,500 gulls (1,750 pairs). The erection of a grid wire system reduced the prenesting population to about 1,000 birds. A maximum of 559 nests was found on the second visit in 1991. In 1992, a total of 214 nests was found on only one visit and the gulls left perhaps to a second rooftop colony located 6 miles from the first colony. We treated this second colony in 1992 and 1993. Some of the gulls from this second colony probably relocated back to the first colony during our fourth visit in 1993, when we recorded 195 nests at the second site. The nearest natural (non rooftop) gull colony to these Syracuse colonies was 60 miles away.

We conclude that the nonlethal techniques used were successful in relocating gull nesting colonies. However, the success of this project required 3 years, due to the age of sexual maturity in this species. This was an operational, rather than research project. However, the project raised some interesting questions which could be answered by further research. Where do these relocated gulls go to renest or do they simply quit nesting? This could be answered by color marking birds on the nest prior to nest removal. Do young gulls return to the same site where they hatched? This could be answered by banding young gulls with colored leg bands. We, in ADC Operations, do not do research. However, we would be eager to cooperate with researchers interested, in pursuing this type of research.

Table 3. Number of ring-billed gull nests removed on each visit to the gull colony at Syracuse, New York.

Visit numbers <sup>a</sup>	Year			
	1991	1992	1993	Total
1	23	0	0	23
2	559	214	21	794
3	495	0	6	571
4	282	0	195	477
5	281	0	17	298
6	87	0	4	91
7	0	0	0	0
Total	1,727	214	313	2,254

<sup>a</sup>See footnote for Table 2 for timing of visits.

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